US EPA-States Technical Meeting on Well File Review July 15, 2014 US EPA and CONTRACTOR ATTENDEES

William "Bill" Bates, Geologist, Office of Ground Water and Drinking Water, Office of Water

Bill Bates has worked for US EPA for nine years on a wide range of Underground Injection Control activities, including hydraulic fracturing and seismicity. He serves as the Office of Ground Water and Drinking Water's lead on induced seismicity and hydraulic fracturing. He is also currently the chair of EPA's Underground Injection Control National Technical Workgroup. As a member of EPA's Region 5 UIC team, he wrote and enforced permits for Class I hazardous waste and non-hazardous waste injection wells, as well as Class II wastewater disposal and enhanced recovery wells. He received his BA degree in Natural Sciences from the University of Akron and MS degree in Earth and Environmental Sciences from the University of Illinois at Chicago.

Jeanne Briskin, Coordinator, Hydraulic Fracturing Research, Office of Research and Development

Jeanne Briskin is responsible for leadership, planning, coordination and oversight of EPA's research related to hydraulic fracturing. In her 30 years' experience at EPA, Briskin has also led programs and policy development in the areas of drinking water, climate change, stratospheric ozone layer protection, pesticides and hazardous waste. Briskin received her BA degree in Chemistry and Environmental Studies from Northwestern University and MS degree in Technology and Policy from the Massachusetts Institute of Technology.

Susan Burden, Data Analysis Team Leader, Hydraulic Fracturing Research, Office of Research and Development

Susan Burden is responsible for planning and coordinating research activities that gather and summarize data from many sources to provide current information on hydraulic fracturing activities as part of the EPA study. These projects include analyses of selected state databases for information on spills of hydraulic fracturing-related fluids, data obtained from FracFocus, information provided by hydraulic fracturing service companies, and data from oil and gas well operators. Burden received her PhD in Physical Chemistry from the University of Wisconsin-Madison.

Jeff Frithsen, Senior Scientist and Special Projects Coordinator, National Center for Environmental Assessment, Office of Research and Development

Jeff Frithsen is a senior scientist and special projects coordinator in ORD's National Center for Environmental Assessment. He is responsible for coordinating the development of EPA's hydraulic fracturing drinking water assessment report, which will integrate available information and recent ORD research results to provide a state-of-the-science view of the topic. Frithsen has 15 years experience

with EPA, where he has focused on developing scientific assessments on both ecological and human health topics to help inform environmental management decisions. He coordinated ecological assessments on mountaintop mining and valley fill practices, and the development of EPA's Report to Congress assessing the environmental consequences of the increased use of biofuels. Frithsen is also colead of a team of scientists completing EPA's assessment of Bristol Bay Alaska. Other significant projects include the development of tools and databases to help others conduct better exposure assessments, dioxin exposure study, characterization of PCB exposures to inform agency guidance on PCBs in schools, and assisting with ORD's response to the BP Deepwater Horizon Gulf oil spill. Frithsen received his BS degree in Biology from Boston College and PhD in Oceanography from the University of Rhode Island, and was awarded an environmental fellowship from the American Association for the Advancement of Science.

Robert D. Lawrence, Senior Policy Advisor, Region 6

Rob Lawrence has served as the Senior Policy Advisor to the EPA Regional Administrator and senior staff in Dallas on all aspects of energy issues as they relate to the environment since May 2003. He is responsible for the overall coordination of energy initiatives within EPA Region 6 areas of jurisdiction with a focus on working with members of the regulated community as well as federal, state and tribal regulatory agencies. Priorities of the position include: development of traditional as well as alternative and/or renewable energy sources, advocacy of energy efficiency and energy conservation, and process streamlining of permit decisions for energy infrastructure projects such as liquefied natural gas terminals under the Deepwater Port Act and transmission lines and pipelines. Lawrence serves as the lead EPA staff member for the EPA/Interstate Oil and Gas Compact Commission task force. Lawrence has worked for EPA in the Dallas regional office since July of 1990 in a number of management and staff positions. Previously, he worked for the Louisiana Department of Environmental Quality between September 1980 and July 1990. He received his Bachelor's and Master's degrees from Louisiana State University in Baton Rouge.

Lisa Matthews, Senior Advisor-State Engagement, Office of Research and Development

Lisa Matthews is a senior advisor in EPA's Office of Research and Development. She serves as the lead for stakeholder engagement for EPA's Hydraulic Fracturing Study. She also serves as Executive Secretary for the Committee on Environment, Natural Resources and Sustainability of the National Science and Technology Council. Prior to her current position, Matthews served as Special Assistant to the EPA Science Advisor where she worked on development and implementation of policies and guidance related to EPA's science and technology priorities. From June 2007 to March 2009, she was on assignment to the Environmental Council of the States, the national association of state environmental agency leaders, to foster cooperation and coordination in environmental management between EPA and state agencies. She also has worked in EPA's Office of the Administrator and Superfund program and on detail to the White House Office of Science and Technology Policy. Matthews received her BS degree in Chemistry from Wake Forest University and MS degree in Analytical Chemistry from the University of North Carolina at Chapel Hill.

Michael Overbay, Coordinator, Ground Water Center, Region 6

Michael Overbay is a geologist and has been with EPA Region 6 in Dallas since 1987. For the last six years he has been the Ground Water Center Coordinator, where he is primarily involved in energy issues, including EPA's study of the potential impacts of hydraulic fracturing for oil and gas on drinking water resources, oil and gas citizen complaints, and aquifer exemptions. He also has 18 years of experience with the RCRA hazardous waste, Superfund and Federal Facilities programs, where he investigated releases of hazardous substances/constituents in to the soil, ground water and surface waters. He has written national policy and guidance documents in multiple programs. Prior to joining EPA, he worked for approximately 18 months in the oil and gas industry.

David Rectenwald, Environmental Scientist, Region 3

David Rectenwald is an environmental scientist with EPA Region 3 in Philadelphia. He has been with EPA since 1993 working in many capacities associated with the Underground Injection Control program and has conducted thousands of inspections of Class II injection and disposal wells. He received two EPA Silver medals, including one for exceptional performance in addressing the impact to waters of the U.S. from shale gas extraction, land disturbance and wastewater disposal in Pennsylvania. Rectenwald has been an instructor for inspector training for the UIC Program. Prior to EPA, he was an environmental scientist with The Cadmus Group and a staff scientist with Geraghty & Miller, Inc. He has a BS degree in Geology and Physics minor from Allegheny College, and a Master's degree in Environmental Sciences from Gannon University.

José Eduardo Torres, Delegated State UIC Program Manager, Region 6

José Torres has worked for over 24 years in EPA's Underground Injection Control program providing support with the technical aspects of managing state and direct implementation programs involving Class I, II, III and V wells. Before joining EPA, Torres worked for 20 years as an oil and gas well drilling, production and reservoir engineer, beginning with Chevron, Cities Service and Texaco (South America). He later worked for Mobil Oil, Grace Petroleum and Mid-Con Central, and as an independent consulting drilling and reservoir engineer. Torres has provided technical support with oil and gas operations in the Mid-Continent, Rocky Mountains and Western regions of the United States, including operations involving fluid injection (water, steam, CO₂) for enhanced oil recovery. He received a Bachelor's degree in Petroleum Engineering from the Universidad Industrial de Santander, in Bucaramanga, Colombia S.A. and a Master's degree in Chemical and Petroleum Refining Engineering from the Colorado School of Mines in Golden, Colorado. He was a Registered Professional Engineer in Texas.

E. Ramona Trovato, Acting Principal Deputy Assistant Administrator, Office of Research and Development

Ramona Trovato is the Acting Principal Deputy Assistant Administrator for EPA's Office of Research and Development. She provides executive leadership on EPA's Hydraulic Fracturing Study. During her distinguished 33 year career at EPA, Trovato has served in numerous leadership positions in the Office of the Administrator, Office of Water, Office of Enforcement and Compliance Assurance, Office of Air and Radiation, Office of Environmental Information and Office of Solid Waste and Emergency Response, as well as her present leadership position in ORD. She has successfully led many implementation initiatives

focused on improving operational performance, and building efficiency into environmental protection efforts. Some notable examples include her work in protecting and promoting children's health; developing and implementing the Comprehensive State Ground Water Protection Program; working with the private sector and states to make the best and highest use of properties cleaned up under the Superfund program; and, developing and implementing the National Environmental Laboratory Accreditation Program. Among the many awards received during government service, she was recognized with the Distinguished Career Award in recognition of extraordinary leadership and exceptional dedication in serving the American people, and the President's Meritorious Executive Rank Award for building strong coalitions and partnerships to achieve environmental and public health goals. She has a BS degree in Zoology from the University of Maryland at College Park and has undertaken additional studies in chemistry, facilitation, negotiation, information technology management, management and leadership throughout her career.

Nathan Wiser, Environmental Scientist, Office of Research and Development

Nathan Wiser has over 20 years experience in EPA working in the Underground Injection Control program, covering 12 states, including nine Rocky Mountain and Midwest states with significant oil and gas production. He is an injection well resource, addressing construction, operation and inspections of injection wells. He is lead for the Well File Review analysis project. Wiser received his BA degree in Geology from the University of California, Berkeley, and his MS degree in Geology from Northwestern University.

José Zambrana, Senior Science Advisor, Immediate Office of the Assistant Administrator, Office of Research and Development

José Zambrana currently provides leadership on sustainability, unconventional oil and gas development, human health, environmental justice, citizen science and sustainable chemistry. At EPA, he has overseen post-graduate public health and environmental science policy professional development programs, and graduate fellowship programs, where he piloted programs in environmental entrepreneurship and nanotechnology. He was the recipient of the 2010 ORD Diversity Award for employees. Prior to joining EPA, Zambrana was a Science & Technology Policy Fellow with the American Association for the Advancement of Science, where he focused on strategic planning and spurring high-impact, transformative environmental science research. He received his PhD in Inorganic Chemistry from the Graduate Center of the City University of New York (CUNY) where he was both a National Science Foundation Graduate Research and GK-12 Fellow.

<u>Other</u>

David Marker, Associate Director and Senior Statistician, Westat (EPA Contractor)

David Marker is an Associate Director and Senior Statistician at Westat, where he has worked for over 30 years. He coordinates Westat support for EPA through Westat's Statistical Support contract. He has supported EPA projects since the 1980s. Marker is a Fellow of the American Statistical Association and

an Elected Member of the International Statistical Institute. He has appeared as an expert witness before Federal, State and local governments, and in Federal and State courts.